

In the Claims

Please cancel claims 1-3 and add the following claims 4-18.

4. A method of debugging a processor, said method comprising:

a) providing information about processor activity in real time;  
and  
b) associating the instructions executed by the processor with  
the information about processor activity, wherein  
said providing information about processor activity includes  
providing information about substantially every instruction  
executed by the processor.

5. The method according to claim 4, wherein:  
said providing information about processor activity includes  
providing an indication every time the processor stalls that the  
processor has stalled.

6. The method according to claim 4, wherein:  
the information about processor activity includes an  
indication of at least one of whether the last instruction  
executed was a jump, a jump based on the contents of a register, a  
branch taken, or an instruction which encountered an exception.

*a 2*  
*cont.*

7. The method according to claim 4, further comprising:

c) providing information regarding the status of the processor when certain processor events occur, said certain processor events including at least one of a change in status of an interrupt line, an internal processor exception, and the execution of a jump instruction based on the contents of a register.

8. The method according to claim 4, wherein:

said providing information is performed by the processor, and  
said associating the instructions is performed by a debugger.

9. A method of debugging a processor, said method comprising:

a) providing information about processor activity in real time according to a first clock; and

b) associating the instructions executed by the processor with the information about processor activity according to a second clock.

10. The method according to claim 9, wherein:

the first clock is the processor clock and the second clock is a debugger clock.

11. The method according to claim 9, wherein:

said providing information is performed by the processor, and  
said associating the instructions is performed by a debugger.

*C 2*  
*Cont.*  
12. The method according to claim 9, wherein:

said providing information about processor activity includes providing an indication every time the processor stalls that the processor has stalled.

13. The method according to claim 9, wherein:

the information about processor activity includes an indication of at least one of whether the last instruction executed was a jump, a jump based on the contents of a register, a branch taken, or an instruction which encountered an exception.

14. The method according to claim 9, further comprising:

c) providing information regarding the status of the processor when certain processor events occur, said certain processor events including at least one of a change in status of an interrupt line, an internal processor exception, and the execution of a jump instruction based on the contents of a register.

15. A method of debugging a processor, said method comprising:

a) causing the processor to provide information about processor activity in real time; and  
b) causing a debugger to associate the instructions executed by the processor with the information about processor activity.